

[illegible]

- receiving means for receiving in the first mode of operation a supply of image receiving tape and a supply of ink ribbon for providing an image on said image receiving tape and in the second mode of operation a supply of thermally sensitive image receiving tape;

~~cutting means for separating a printed label from the supply of image receiving tape.~~

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4. A tape printing apparatus as claimed in claim 3, wherein said support member is a rotatable support member having gear means, said gear means having a first position in which the gear means is coupled to the drive means when said ink ribbon is present and a second position when ink ribbon is not present, said detecting means being arranged to detect a characteristic indicative of whether the gear means is in the first position or the second position.

5. A tape printing apparatus as claimed in claim 4, wherein said detecting means is ~~arranged~~^{positioned} to detect the position of the gear means.

Sub E4

6) A tape printing apparatus as claimed in any of claims 3 to 5, wherein said detecting means is ^{positioned} ~~is arranged~~ to detect the position of the support member.

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7. A tape printing apparatus as claimed in claim 2, wherein said detecting means is arranged to determine if ink ribbon is

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present along a portion of an ink ribbon path.

8. A tape printing apparatus as claimed in claim 7, wherein said detecting means comprises a first emitting element and a second detecting element, wherein the first emitting element is arranged to emit a signal which interacts with said ink ribbon when present and said detecting element, depending on whether or not ink ribbon is present, either receives or does not receive the signal emitted by the emitting element.

9. A tape printing apparatus as claimed in claim 2, wherein driving means are provided for driving said ink ribbon and the detecting means is arranged to detect, when said driving means is activated, a characteristic indicative of movement of said ink ribbon to thereby determine if ^{an} ink ribbon is present.

10. A tape printing apparatus as claimed in claim 1 or 9, wherein said ink ribbon is mounted on a rotatable support member and said detecting means is arranged to detect a characteristic indicative of rotational movement of said ink ribbon.

11. A tape printing apparatus as claimed in claim 10, wherein said rotatable support member has a first speed of rotation when ink ribbon is present and a second speed of rotation when no ink ribbon is present, and said detecting means is ^{positioned} arranged to detect a characteristic indicating the speed of rotation of said rotatable support member.

12. A tape printing apparatus as claimed in claim 11, wherein said rotatable support means is driven by said driving means, said rotatable support means rotating more quickly when no ink ribbon is present as compared to when ^{an} ink ribbon is present.

13. A tape printing apparatus as claimed in claim 10, 11 or 12, wherein said rotatable support member is arranged to support take up means for taking up ^{the} ink ribbon, when present, after said ink ribbon has been driven by said driving means past said print

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Cont.

05035055, 052337
052250, 502250

Sub 41
Cont.

Sub 41

head.

14. A tape printing apparatus as claimed in any of claims 10 to 13, wherein said rotatable support member is coupled via a slipping clutch to a driving gear of said driving means, whereby when no ink ribbon is present the support member rotates at the same speed as the driving gear and when ink ribbon is present the slipping clutch slips so that rotatable support member rotates at a lower speed than the driving gear.

15. A tape printing apparatus as claimed in claim 11, wherein said support member for supporting the supply of ^{the} ink ribbon is freely rotatable such that the rotatable support member is substantially stationary when no ink ribbon is present and ^{the} rotates when ink ribbon is present.

16. A tape printing apparatus as claimed in any one of claims 11 to 15, wherein, in use, a reel for the ink ribbon is supported on said rotatable support member and said detecting means are arranged to monitor the speed of rotation of said reel to thereby provide an indication of the speed of rotation of said support member.

17. A tape printing apparatus as claimed in claim 16, wherein said reel is provided with a surface having a plurality of markings, said detecting means being ^{positioned} ~~arranged~~ to detect the markings as the reel rotates with the rotatable support means to provide an indication of the speed of the rotatable support means.

18. A tape printing apparatus as claimed in any of claims 11 to 15, wherein a member is provided on said rotatable support member which rotates therewith, and said detecting means is arranged to detect the rotation of said member to provide an indication of the speed of the rotatable support means.

19. A tape printing apparatus as claimed in claim 18, wherein

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Sub B
 said member comprises a disc having a plurality of markings and the detecting means is ^{positioned} ~~arranged~~ to detect the markings as the disc rotates with the rotatable support member to provide an indication of the speed of the support member.

20. A tape printing apparatus as claimed in claim 19, wherein said markings comprise a plurality of holes in said disc and said detecting means comprises a light source and a detector.

Sub B
 21. A tape printing apparatus as claimed in claim 1, 8 or 9, wherein said detecting means comprises a movable member having ^{an} a first position when ink ribbon is present and a second position when no ink ribbon is present, and the detecting means is arranged to determine the position of said movable member.

Sub B
 22. A tape printing apparatus, as claimed in claim 21, wherein said movable member is arranged to be in said second position when a supply of ^{the} ~~ink~~ ribbon is present and stationary, and to move to said first position only when the ink ribbon is driven by said driving means.

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 23. A tape printing apparatus as claimed in any one of the preceding claims, wherein in the first mode of operation of the print head, the print head energy requirements are at a first level and in the second mode of operation of the print head, the print head energy requirements are at a second level.

24. A tape printing apparatus as claimed in claim 23, wherein the print head energy requirements are changed by altering one or more of the following print head operating parameters:

a voltage applied to each printing element of the print head;

length of time for which each printing element of the print head is activated; and

the number of times that each printing element of the print head is activated for the same set of print data.

25. A tape printing apparatus as claimed in any preceding claim, wherein in said first mode of operation, the image receiving tape and the ink ribbon are received in a first cassette and in the second mode of operation, the image receiving tape is received in a second cassette.

26. A tape printing apparatus as claimed in any of claims 1 to 24, wherein in said first mode of operation, the image receiving tape and the ink ribbon are received in separate cassettes and in the second mode of operation, the image receiving tape is received in a cassette.

27. A tape printing apparatus as claimed in claim 25, when appended to claim 3, 4, 5 or 6, wherein said first cassette has an aperture in a first location for receiving said support member and the second cassette has an aperture for receiving said support member in a second location such that the first cassette causes the rotatable support member to be in the first position and the second cassette causes the support member to be in the second position.

28. A tape printing apparatus as claimed in any of claims 1, 2 or 9, wherein said detecting means is arranged to detect a characteristic indicative of the power consumed by said drive means, the drive means being arranged such that the power consumed thereby is greater when ink ribbon is present as compared to when no ink ribbon is present.

29. A tape printing apparatus as claimed in claim 28, wherein said characteristic indicative of the power of ^{said driving} ~~the drive~~ means is the drive current applied thereto.

30. A tape printing apparatus as claimed in any preceding claim, comprising means for determining when a supply of image receiving tape is first inserted or replaced whereby the tape printing apparatus is arranged so that the mode of operation of the print head is only determined when said determining means determines

that a supply of image receiving tape has been inserted or replaced.

Sub E⁶ 31. A cassette comprising a housing in which a reel holding a supply of tape is arranged, said reel being rotatable with respect to said housing and having a plurality of markings thereon, said housing being arranged so that said markings are detectable by ~~a detecting arrangement~~^{means} external to said cassette to provide information relating to the rotation of said reel.

Sub F¹ 32. A cassette as claimed in claim 31, wherein said tape is ink ribbon.

33. A cassette as claimed in claim 32, wherein said reel supports a supply of unused ink ribbon or a supply of ink ribbon which has been used.

Sub B¹² 34. A cassette as claimed in any of claims 31 to 33, wherein said housing is provided with an opening through which said markings are detectable.

35. A cassette as claimed in claim 34, wherein said opening comprises substantially transparent material.

Sub B¹³ 36. A cassette as claimed in any of claims 31 to 35 in combination with a tape printing apparatus as claimed in claim 17.

Sub A³ 37. A tape printing apparatus for printing an image on an image receiving tape comprising:

a thermal print head for printing an image on said image receiving tape, said print head having a first mode of operation and a second mode of operation; and

receiving means for receiving in the first mode of operation a supply of image receiving tape and a supply of ink ribbon for providing an image on said image receiving tape, and in the second mode of operation a supply of thermally sensitive image

receiving tape comprising:
a thermal print head for printing an image on said image
receiving tape, said print head having a first mode of operation
and a second mode of operation;
receiving in the first mode of operation

receiving means for receiving in the first mode of operation a supply of image receiving tape and a supply of ink ribbon for providing an image on said image receiving tape, and in the second mode of operation a supply of thermally sensitive image receiving tape;

control means for controlling the print head;
the image receiving

control means for controlling the print head;
drive means for driving the image receiving tape and ink
ribbon, when present, past the print head; and
means for detecting a characteristic indicative

detecting means for detecting a characteristic indicative of the presence or absence of ink ribbon and arranged to provide a signal to the control means indicative of the presence or absence of ink ribbon, the control means controlling the print head to have the first mode of operation when ink ribbon is present and the second mode of operation when no ink ribbon is present, and said detecting means is arranged to detect the load applied to said drive means, the load applied to the drive means being greater when ink ribbon is present as compared to when no ink ribbon is present.